

Appl. No. 10/667,958  
Atty. Docket No. CM2632MC  
Amdt. dated 06/14/2005  
Reply to Office Action of 12/14/2004  
Customer No. 27752

### REMARKS

#### Amendments to the Claims

Claims 1-3 and 5-14 are pending in the present application. Claim 4 has been previously canceled. No additional claims fee is believed to be due.

Claims 1, 11, and 12 have been amended as shown above to recite that the respective compositions are "substantially free of organic peroxyacid precursors and preformed organic peroxyacids". Support for this amendment can be found at page 15, lines 18-26 of the specification.

It is believed these changes do not involve any introduction of new matter. Consequently, entry of these changes is believed to be in order and is respectfully requested.

#### Rejections Under 35 USC 102(b) and 103(a) Over US Patent No. 6,004,355 to Dias et al.

Claims 1-4, 6-10, and 13 remain rejected under 35 USC 102(b) as being anticipated by, or, alternatively, under 35 USC 103(a) as being obvious over, US Patent No. 6,004,355 to Dias et al. ("Dias"). As set forth in the Office Action of July 14, 2004, the Examiner asserts that Dias teaches a hair coloring composition comprising an oxidizing agent and a sequestrant (chelant), wherein the composition has a pH of 10, wherein the composition is an aqueous solution, wherein the oxidizing agent comprises from 0.1% to 4% of aqueous hydrogen peroxide, wherein the chelant is present at an amount from 0.01% to 10%, wherein the composition further comprises an oxidative dye precursor. The Examiner also asserts that Dias teaches a kit comprising an oxidizing agent and one or more coloring agents.

The Examiner then asserts that because Dias teaches the same hair treating ingredients of Applicants' composition, the compositions of Dias would inherently have the same physical properties of log ratio, hydrogen peroxide decomposition ratio, and ability to form a hexadentate complex with  $\text{Cu}^{2+}$ . Thus, the Examiner concludes that Dias anticipates Applicants' claims. Alternatively, the Examiner asserts that it would be obvious to one of skill in the art that the compositions of Dias would have similar physical properties as those claimed by Applicants, absent unexpected results. Applicants respectfully traverse the present rejection based on the following comments.

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First, Dias is not anticipatory because it fails to disclose each and every limitation of Applicants' claims. As currently amended, Applicants' claim 1 recites a composition comprising (i) an oxidizing agent and (ii) a chelant (L) having a  $(\log K_{CuL})/(\log K_{CaL})$  ratio calculated at pH 10 of at least about 3.20, wherein the composition has a pH from about 9.5 to about 11, and *wherein the composition is substantially free of organic peroxyacid precursors and preformed organic peroxyacids.*

Applicants' compositions, which contain chelants having a stronger affinity for transition metal ions such as  $Cu^{2+}$  than for alkaline earth metal ions such as  $Ca^{2+}$  at pH 10, efficiently prevent hair damage that occurs during oxidative treatments, such as bleaching and dyeing, which are carried out using water-soluble inorganic peroxygen oxidizing agents in the pH range claimed by Applicants. It is believed that the chelants act to chelate environmental and intrinsic heavy metal ions which would otherwise react with the water-soluble inorganic peroxygen oxidizing agent to give harmful species such as free radicals which oxidize the disulfide bonds of hair. Further, at Applicants' claimed pH range, the presence of organic peroxyacid precursors and preformed organic peroxyacids have a negative effect on the efficiency of bleaching and coloring and also increase hair damage.

In contrast, Dias discloses hair color compositions which comprise as required components a peroxygen oxidizing agent, *an organic peroxyacid oxidizing aid*, and oxidative hair color agents. Dias teaches that the organic peroxyacid precursor oxidizing aid is an essential feature of the invention of Dias because it provides enhanced dye oxidation in a faster time at a lower pH. Because the compositions of Dias require an organic peroxyacid oxidizing aid, Dias fails to teach a composition which is substantially free of organic peroxyacid precursors and preformed organic peroxyacids.

As a result, each and every element of Applicants' claim 1, as well as claims 2-3, 6-10, and 13, which contain the limitations of claim 1, is not disclosed in Dias. Therefore, Applicants' claims 1-3, 6-10, and 13 are novel over Dias.

Second, Applicants' claimed invention is not obvious in view of Dias. Dias does not teach or suggest all of Applicants' claim limitations and, therefore, does not establish a *prima facie* case of obviousness (MPEP 2143.03). As discussed above, Dias fails to teach or suggest a composition which is substantially free of organic peroxyacid precursors and preformed organic peroxyacids. Instead, Dias teaches away from such a

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composition because the compositions of Dias further require an organic peroxyacid precursor oxidizing aid as an essential feature. Therefore, Dias fails to establish a *prima facie* case of obviousness with respect to Applicants' currently amended claims.

Alternatively, Applicants' claimed invention is not obvious in view of Dias because the Declaration of Jennifer Mary Marsh ("the Marsh Declaration"), submitted herewith, demonstrates that the compositions of the present invention possess superior and unexpected properties over the compositions of Dias. As is demonstrated in the Marsh Declaration, an exemplary composition of the present invention (*i.e.*, Product 5) is about about three times less damaging per unit of lightening achieved, at the total oxidant level required by the 5-Cycle Oxidative Hair Treatment Protocol With 2 Intermediate Washes, as compared to the tested products based on the compositions of Dias and at pH 8 (*i.e.*, Products 1 and 2). Additionally, the Marsh Declaration demonstrates that Product 5 is almost two times less damaging per unit of lightening achieved as compared to the tested product based on the compositions of Dias and at pH 10 (*i.e.*, Product 3). Applicants respectfully submit that such lightening and hair damage results are clearly superior over the performance of the compositions of Dias. Accordingly, the Marsh Declaration demonstrates that the compositions of the present invention, which are substantially free of organic peroxyacid precursors and preformed organic peroxyacids, possess superior and unexpected properties over the compositions of Dias, which require an organic peroxyacid as part of the oxidizing system.

Therefore, Applicants' claims 1-4, 6-10, and 13 are novel and nonobvious over Dias.

Rejections Under 35 USC 103(a) Over US Patent No. 6,004,355 to Dias et al. in view of US Patent No. 5,100,436 to Wenke

Claim 5 remains rejected under 35 USC 103(a) as being unpatentable over US Patent No. 6,004,355 to Dias et al. ("Dias") in view of US Patent No. 5,100,436 to Wenke ("Wenke"). As set forth in the Office Action of July 14, 2004, the Examiner asserts that Dias teaches hair coloring compositions, as described above, wherein the compositions are thickened aqueous compositions. The Examiner notes that Dias does not teach a hair treatment composition in the form of an oil-in-water emulsion. Then, the Examiner asserts that Wenke teaches a composition comprising oxidative dye precursors, oxidizing

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agents, and chelating agents, wherein the composition may be in the form of an emulsion, suspension, lotion, or gel. Thus, the Examiner concludes that it would have been obvious to one of skill in the art to formulate the composition of Dias in an emulsion because Wenke teaches different forms of hair dyeing compositions, absent unexpected results. Applicants respectfully traverse the present rejection based on the following comments.

The combination of Dias and Wenke does not teach or suggest all of Applicants' claim limitations and, therefore, does not establish a *prima facie* case of obviousness (MPEP 2143.03). Applicants' claim 5 contains the limitations of claim 1. As discussed above, Applicants' claim 1, as currently amended, recites a composition which is substantially free of organic peroxyacid precursors and preformed organic peroxyacids. Dias teaches away from such a composition because the compositions of Dias further require an organic peroxyacid precursor oxidizing aid as an essential feature.

Additionally, although Wenke discloses that its compositions may be in the form of an emulsion, one of skill in the art would not be motivated to formulate the composition of Dias into an emulsion because the peroxyacid oxidizing aids of Dias, which are required components of the compositions of Dias, are difficult to solubilize, especially in an oil-in-water emulsion.

Thus, the combination of Dias and Wenke fails to teach or suggest all of the limitations of Applicants' claim 5.

Alternatively, Applicants' claimed invention is not obvious in view of the combination of Dias and Wenke because the Marsh Declaration demonstrates that the compositions of the present invention possess superior and unexpected properties over the compositions of Dias. As discussed above, Product 5 is about three times less damaging per unit of lightening achieved as both Products 1 and 2. Similarly, Product 5 is almost two times less damaging per unit of lightening achieved as Product 3. Further, while Wenke discloses that its hair coloring compositions may be in the form of emulsions, suspensions, lotions, or gels, Wenke fails to provide a teaching or suggestion for achieving the superior results of Applicants' claimed compositions.

Therefore, Applicants' claim 5 is novel and nonobvious over the combination of Dias and Wenke.

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Rejections Under 35 USC 103(a) Over US Patent No. 6,004,355 to Dias et al.

Claims 11, 12, and 14 remain rejected under 35 USC 103(a) as being unpatentable over US Patent No. 6,004,355 to Dias et al. ("Dias"). As set forth in the Office Action of July 14, 2004, the Examiner asserts that Dias teaches methods for coloring hair comprising the steps of applying compositions that comprise an oxidizing agent, oxidation dye precursors, and chelating agents. The Examiner notes that Dias does not teach Applicants' claimed methods with sufficient specificity to constitute anticipation of the claims. However, the Examiner asserts that it would have been obvious to one of skill in the art to use the methods of Dias with a composition that comprises similar ingredients to the compositions of Dias. Applicants respectfully traverse the present rejection based on the following comments.

Dias does not teach or suggest all of Applicants' claim limitations and, therefore, does not establish a *prima facie* case of obviousness (MPEP 2143.03). As currently amended, Applicants' claims 11 and 12 respectively recite a method which requires, *inter alia*, contacting hair with a composition comprising an oxidizing agent, wherein the composition is substantially free of organic peroxyacid precursors and preformed organic peroxyacids. Applicants' first composition of claim 11 and second composition of claim 12 protect hair from damage that occurs during oxidative treatments, such as bleaching and dyeing, which are carried out using water-soluble inorganic peroxygen oxidizing agents in the pH range claimed by Applicants.

In contrast, Dias discloses methods which comprise applying hair color compositions comprising a peroxygen oxidizing agent, *an organic peroxyacid oxidizing aid*, and oxidative hair color agents. As discussed above, Dias teaches that the organic peroxyacid precursor oxidizing aid is an essential feature of the invention of Dias because it provides enhanced dye oxidation in a faster time at a lower pH. Because the compositions of Dias require an organic peroxyacid oxidizing aid, Dias fails to teach a method which comprises contacting hair with a composition which is substantially free of organic peroxyacid precursors and preformed organic peroxyacids. Therefore, Dias fails to establish a *prima facie* case of obviousness with respect to Applicants' currently amended claims.

Alternatively, Applicants' claimed methods are not obvious in view of Dias because the Marsh Declaration demonstrates that the compositions of the present

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invention possess superior and unexpected properties over the compositions of Dias. As discussed above, Product 5 is about three times less damaging per unit of lightening achieved as both Products 1 and 2. Similarly, Product 5 is almost two times less damaging per unit of lightening achieved as Product 3. As a result, the Marsh Declaration demonstrates that the compositions of the present invention, which comprise an oxidizing agent consisting of one or more water-soluble inorganic peroxygen oxidizing agents, possess superior and unexpected properties over the compositions of Dias, which require an organic peroxyacid as part of the oxidizing system.

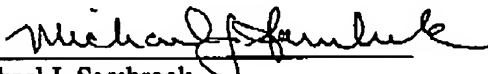
Accordingly, Applicants' claims 11 and 12 would not have been obvious to one of ordinary skill in the art. Claim 14 contains the limitations of claim 1, which was discussed above. Therefore, Applicants' claims 11, 12, and 14 are novel and nonobvious over Dias.

#### CONCLUSION

In light of the amendments and remarks presented herein, it is requested that the Examiner reconsider and withdraw the present rejections. Early and favorable action in the case is respectfully requested.

Applicant has made an earnest effort to place their application in proper form and to distinguish the invention as now claimed from the applied references. In view of the foregoing, Applicant respectfully requests reconsideration of this application, entry of the amendments presented herein, and allowance of Claims 1-3 and 5-14.

Respectfully submitted,  
The Procter & Gamble Company

By   
Michael J. Sambrook  
Attorney for Applicant(s)  
Registration No. 56,746  
(513) 626-2269

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